

CLAIMS

WHAT IS CLAIMED IS:

1. A method for managing data, comprising operations of:
 - providing a multiple-view format for representing information content, comprising:
 - a first guideline that instances of said format include one or more data elements, where each data element has one of multiple predetermined media types;
 - a second guideline that all data elements of an instance of the format represent the same content;
 - a third guideline that data elements of each instance of the format occur in presentation independent form;
 - receiving one or more items of information, and preparing an instance of the format comprising a computer-readable representation of the information.
2. The method of claim 1, the predetermined media types including multiple of the following: text, short-form text, audio, video, image, tagged text, mixed, file.
3. The method of claim 1, the preparing operation being performed by a computer, the operations further comprising a transmitting the instance to another computer.
4. The method of claim 1, the operations further comprising storing the instance in nonvolatile storage.

1 5. The method of claim 1, the operation of providing the multiple-view format comprising
2 providing an application of eXtensible Markup Language.

1 6. The method of claim 1, the media types including at least text and audio, the first
2 guideline prescribing that within an instance any text element provides a transcription of any
3 audio element.

1 7. The method of claim 1, the operation of providing the multiple-view format comprising
2 providing a specification and one or more Data Type Definitions (DTDs).

1 8. The method of claim 1, where the first guideline prescribes that data elements of one
2 or more media types may comprise pointers to storage locations containing machine-readable
3 files.

1 9. A method of exchanging data between parties, comprising:
2 first and second parties agreeing upon use of a multiple-view format for representing
3 information content, the format comprising:
4 a first guideline that instances of said format include one or more data elements,
5 where each data element has one of multiple predetermined media
6 types;
7 a second guideline that all data elements of an instance of the format represent
8 the same content;
9 a third guideline that data elements of each instance of the format occur in
10 presentation independent form;

11 the first and second parties exchanging data comprising one or more instances of the
12 format.

1 10. A signal-bearing medium tangibly embodying a machine-readable data object observing
2 a multiple-view format for representing information content, the format comprising:
3 a first guideline that instances of said format include multiple data elements, where
4 each data element has one of multiple predetermined media types;
5 a second guideline that all data elements of an instance of the format represent the
6 same content;
7 a third guideline that data elements of each instance of the format occur in
8 presentation independent form.

1 11. The medium of claim 10, the media types including at least text and audio, the first
2 guideline prescribing that within an instance a text element provides a transcription of the
3 audio element.

1 12. The medium of claim 10, where the first guideline prescribes that data elements of one
2 or more media types may comprise pointers to storage locations containing machine-readable
3 files.

1 13. A machine-readable data object product prepared by a process comprising:
2 providing a multiple-view format for representing information content, comprising:

3 a first guideline that instances of said format include one or more data elements,
4 where each data element has one of multiple predetermined media
5 types;
6 a second guideline that all data elements of an instance of the format represent
7 the same content;
8 a third guideline that data elements of each instance of the format occur in
9 presentation independent form;
10 receiving one or more items of information, and preparing an instance of the format
11 comprising a computer-readable representation of the information.

1 14. The product of claim 13, the predetermined media types including multiple of the
2 following: text, short-form text, audio, video, image, tagged text, mixed, file.

1 15. The product of claim 13, preparing operation being performed by a computer, the
2 process of preparing the product further including operations comprising transmitting the
3 instance to another computer.

1 16. The product of claim 13, the process of preparing the product further comprising
2 storing the instance in nonvolatile storage.

1 17. The product of claim 13, the process of preparing the product being performed such
2 that the operation of providing the multiple-view format provides an application of eXtensible
3 Markup Language.

1 18. The product of claim 13, the media types including at least text and audio the first
2 guideline prescribing that within an instance any text element provides a transcription of any
3 audio element.

1 19. The product of claim 13, the operation of providing the multiple-view format comprising
2 providing a specification and one or more Data Type Definitions (DTDs).

1 20. The product of claim 13, where the first guideline prescribes that data elements of one
2 or more media types may comprise pointers to storage locations containing machine-readable
3 files.

1 21. A method for delivering multimedia information to requestors, comprising operations of:
2 assembling a universal database by gathering content instances each including one or
3 more data elements in predefined topics, where data elements of a content
4 instance provide alternative representations of the same item of information in
5 different media types;
6 storing the data elements in a database, the database associating each item of
7 information with all data elements representing that story item of information;
8 receiving connection requests from requestors via personal interfaces including at least
9 one of the following: telephone, web-enabled phone, Internet web browser;
10 responsive to each connection request, establishing a connection with the personal
11 interface and during the connection performing operations comprising:
12 retrieving pre-stored preferences specific to the caller, said preferences including
13 content preferences;

14 identifying content instances in the universal database that pertain to the
15 identified requestor's pre-stored content preferences and identifying data
16 elements of the identified content instance having media types
17 compatible with the requestor's personal interface; and
18 rendering the identified information to the requestor's personal interface in
19 suitable format for playback to the requestor's personal interface.

1 22. The method of claim 21, where the operation of assembling the universal database
2 further comprises:

3 receiving information content provided in a multiple-view format that comprises a first
4 guideline that instances of said format include one or more data elements,
5 where each data element has one of multiple predetermined media types; a
6 second guideline that all data elements of an instance of the format represent
7 the same content; a third guideline that data elements of each instance of the
8 format occur in presentation independent form.

9 23. The method of claim 21, where the operation of storing the data elements in the
10 database comprises:

11 organizing the data elements in a multiple-view format that comprises:

12 a first guideline that instances of said format include one or more data elements,
13 where each data element has one of multiple predetermined media
14 types;
15 a second guideline that all data elements of an instance of the format represent
16 the same content;

9 a third guideline that data elements of each instance of the format occur in
10 presentation independent form;
11 storing the organized data elements in the database.

1 24. The method of claim 21, where the operation of rendering the identified information
2 comprises:

3 organizing the data elements in a multiple-view format that comprises:

4 a first guideline that instances of said format include one or more data
5 elements, where each data element has one of multiple predetermined
6 media types;

7 a second guideline that all data elements of an instance of the format represent
8 the same content;

9 a third guideline that data elements of each instance of the format occur in
10 presentation independent form;

11 selecting data elements of the organized data elements that are compatible with the
12 requestor's personal interface and rendering the selected data elements to the
13 requestor's personal interface.

1 25. A method of rendering personalized content to requestors, comprising operations of:
2 operating an Internet web server to receive user preferences specifying, for each user,
3 one or more desired topics from a predefined list of topics and, within each topic,
4 one or more desired topic-specific segments from predefined lists of topic-
5 specific segments;

responsive to receiving an incoming request submitted by a user via personal interface, establishing a communication link with the user's personal interface device and while the link is established, performing operations comprising: retrieving the user's preferences, selecting content having one or more media types from a preassembled multimedia database, said content being selected according to the user's preferences and the media types being selected according to the capabilities of personal interface; presenting the selected content to be user's personal interface.

26. An apparatus for delivering information to requestors, comprising:

a digital data storage;

a communications server responsive to receiving requestors' connection requests from personal interfaces, to establish communication connections with the personal interfaces and transmit playback requests to a session server, the personal interfaces comprising at least one of the following: telephone, web-enabled phone, Internet web browser;

a content processor coupled to the storage, and programmed to assemble a universal database by gathering content instances each including one or more data elements in predefined topics, where data elements of a content instance provide alternative representations of the same item of information in different media types;

a session server coupled to the storage and responsive to playback requests to perform the following operations during each connection:

16 retrieving pre-stored preferences specific to the caller, said preferences
17 including content preferences;
18 identifying content instances in the universal database that pertain to the
19 requestor's pre-stored content preferences;
20 transmitting the identified information to the communications server;
21 the communications server being further programmed to identify data elements of the
22 identified content instance having media types compatible with the requestor's
23 personal interface, and to render the identified information to the requestor's
24 personal interface in suitable format for playback to the requestor's personal
25 interface.

26
27 1 27. The apparatus of claim 26, where the content processor is programmed such that the
28 2 operation of assembling the universal database further comprises:

29 3 receiving information content provided in a multiple-view format that comprises a first
30 4 guideline that instances of said format include one or more data elements,
31 5 where each data element has one of multiple predetermined media types; a
32 6 second guideline that all data elements of an instance of the format represent
33 7 the same content; a third guideline that data elements of each instance of the
34 8 format occur in presentation independent form.

35
36 1 28. The apparatus of claim 26, where the content processor is programmed such that the
37 2 operation of assembling the universal database further comprises:

38 3 organizing the data elements in a multiple-view format that comprises:

4 a first guideline that instances of said format include one or more data
5 elements, where each data element has one of multiple predetermined
6 media types:
7 a second guideline that all data elements of an instance of the format represent
8 the same content;
9 a third guideline that data elements of each instance of the format occur in
10 presentation independent form;
11 storing the organized data elements in the database.

1 29. The apparatus of claim 26, where the session server and communications server are
2 programmed such that the operation of rendering the identified information comprises:

3 organizing the data elements in a multiple-view format that comprises:

4 a first guideline that instances of said format include one or more data elements,
5 where each data element has one of multiple predetermined media
6 types;

7 a second guideline that all data elements of an instance of the format represents
8 the same content;

9 a third guideline that data elements of each instance of the format occur in
10 presentation independent form;

11 selecting data elements of the organized data elements that are compatible with the
12 requestor's personal interface and rendering the selected data elements to the
13 requestor's personal interface.